

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings includes changes to Figs. 1-3. These sheets replace the original sheets.

Attachment: Replacement Sheets (3)

REMARKS/ARGUMENTS

1.) Claim Amendments

The Applicants have amended claims 1-11 and have added new claims 12-20. Accordingly, claims 1-20 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

2.) Priority

In paragraph 1 of the Office Action, the Examiner requests clarification of the priority claimed for this application. This application was filed as a national stage application under 35 USC 371 of PCT/EP03/01548 filed February 14, 2003. The PCT application claimed a priority to both EP02388018.0 filed March 4, 2002 and US 60/362,812 filed March 8, 2002. The confusion is based on the different date formats used in Europe (dd/mm/year) and the United States (mm/dd/year).

3.) Drawings

In paragraph 2 of the Office Action, the Examiner objected to the drawings because they fail to show the conventional names, as described in the specification, with non-conventional symbols. The Applicants have attached Replacement Drawings that have been amended to use conventional names. The Examiner's consideration of the Replacement Drawings is respectfully requested.

4.) Claim Objections

In paragraph 4 of the Office Action, the Examiner objected to claims 1-11 due to informalities. The Applicants have amended the claims to correct the informalities. The Examiner's consideration of the amended claims is respectfully requested.

5.) Claim Rejections – 35 U.S.C. § 102(b)

In paragraphs 5-6 of the Office Action, the Examiner rejected claims 1, 3 and 4 under 35 U.S.C. § 102(b) as being anticipated by Celenza, et al. (US 5,049,805).

Celenza discloses a deep discharge prevention circuit (See Figure 1, reference numeral 15 and Figure 3). Celenza uses a FET to disconnect the battery from the load. It is noted in Figure 3, and col. 5, lines 29-40, of Celenza that the switch Q5 continues to be connected across the battery and load and the battery and the control circuitry when in the "off" state. As noted in Celenza, Q5 is operable to disconnect node N2 when the voltage drops to a preset level. However, Q5 continues to be physically connected across the battery and the load and from the battery to ground through Q4, thus allowing leakage current to flow from the battery, thus permitting the battery, to be over-discharged. The circuit of Celenza is not sufficient to prevent the battery from being over-discharged. In contrast, the present invention is operable to disconnect the battery from the load and the control circuitry when the controlled switch is in its second state.

As noted, the present invention discloses advantages over Celenza. However, Applicants have amended the claims to further distinguish the claimed invention from Celenza. The Examiner's consideration of the amended claims is respectfully requested.

Claims 3 and 4 depend from amended claim 1 and recite further limitations in combination with the novel elements of claim 1. Therefore, the allowance of claims 1, 3 and 4 is respectfully requested.

6.) Claim Rejections – 35 U.S.C. § 103(a)

In paragraphs 7-8 of the Office Action, the Examiner rejected claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Tamai (US 5,477,124). Tamai discloses a controller to control voltage to a load. However, the voltage detection means in Tamai, which is run by the rechargeable battery (21), is not cut-off and continues to draw current (See Figures 1 and 2) leading to an over-discharge situation. In the present invention, the control circuitry is disconnected from the battery preventing an over-discharge situation.

The Applicants have amended the claim to further distinguish the claimed invention from Tamai. The Examiner's consideration of the amended claim is respectfully requested.

In paragraph 9 of the Office Action, the Examiner rejected claim 2 under 35 U.S.C. § 103(a) as being unpatentable over Tamai in view of Arnet, et al. (US 6,768,621). As noted, the present invention overcomes disadvantages inherent in Tamai. The Applicants have amended the claim to further distinguish the claimed invention from Tamai and Arnet. The Examiner's consideration of the amended claim is respectfully requested.

Claim 2 depends from amended claim 1 and recite further limitations in combination with the novel elements of claim 1. Therefore, the allowance of claim 2 is respectfully requested.

CONCLUSION

In view of the foregoing remarks, the Applicants believe all of the claims currently pending in the Application to be in a condition for allowance. The Applicants, therefore, respectfully request that the Examiner withdraw all rejections and issue a Notice of Allowance for claims 1 - 20.

The Applicants request a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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